REMARKS/ARGUMENTS

In an Office Action dated August 8, 2008, claims 1, 2, 5-10, 13-18, 21-29, 32-40, 43-51, 54-62, 65-72, 75-82, 85-92 and 95-117 were rejected under § 103 over U.S. Patent No. 6,763,417 to Paul and claims 3, 4, 11, 12, 19, 20, 30, 31, 41, 42, 52, 53, 63, 64, 73, 74, 83, 84 and 93-94 were rejected under § 103 over Paul in view of U.S. Patent No. 7,107,347 to Cohen. Applicants traverse the rejections and request reconsideration.

Section 102 Rejections

Claims 1, 9, 17, 28, 39, 61, 71, 81, 91 and 101

One common element in these claims is either a switching device, switch or method of operating a switch, with the switching device or switch having fabric or F_ports, a node or N_port and a switch or switch circuit interconnecting the ports. That portion of each claim has been rejected over Paul. Applicants submit that the Office Action errs in several places when rejecting these common elements. Using claim 28 as exemplary, the claim requires "at least one N_port connected to said first fabric." The Office Action has equated this port to an SL_port or E_port as mentioned in Paul and then makes the unsupported allegation that the modification to an N_port would be obvious.

Addressing the remarks out of order, Applicants submit that the unsupported allegation to modify an SL_port or E_port to an N_port is improper. First, no support is provided for this allegation. To form a proper rejection, some support is needed for each allegation. As there is no support for this conclusory statement, the rejection is improper on its face.

The rejection may in part be based on a belief that port types are simply interchangeable. Applicants submit that belief is wrong when discussing Fibre Channel ports. The type of port effectively defines required functionality of that port. An N_port is to provide the functionality of a node, such as initiating login requests and the like. An F_port is to provide complementary functions to the N_port functions. For example, when an N_port provides a fabric login request, the F_port must interact with various items in the fabric, such as the name server, and return the appropriate information to the N_port. An E_port is used to interconnect to switches which form at least a portion of a fabric. E_ports have a totally different functionality than N_ports or F_ports. E_ports exchange numerous messages relating to fabric configuration and operation.

An E_port would never provide a login request or respond to a login request as an E_port does not perform those functions. Similarly, N_ports and F_ports would not be able to provide or respond to the fabric configuration messages of E_ports. Therefore the designations of ports are not mere labels but indeed indicate particular functions which must be performed by the ports. N_ports, F_ports and E_ports are not the same and clearly are not interchangeable. Therefore the statement regarding the motivation to modify Paul ("the port functionality of connecting to a fabric remains the same") is simply erroneous.

SL_ports are not standardized Fibre Channel ports, so reference must be made to Paul to determine the functions of an SL_port. Referring to col. 6, lines 27-33, an SL_port "allows several smaller private loops to be connected through the FCPA to create a bigger loop." This sentence is effectively repeated at col. 8, lines 57-59 cited in the Office Action. The col. 6 sentence is very enlightening. The SL_port connects private loops. Thus its operation and function is actually totally opposite of that needed to connect to a fabric, as required in the claim. By definition in Fibre Channel, private devices and private loops cannot operate on a fabric. Private devices only use the lowest 8 bits of the Fibre Channel address bits. Thus operation on a fabric, which requires use of the upper 16 bits of the address, is effectively impossible. With the SL_ports connecting private loops, fabric operation cannot be done. Thus an SL_port could not connect to a fabric as alleged in the Office Action. And clearly an SL_port would never be modified to an N_port which is for fabric connection as required in the claim.

Applicants further submit that an E_port is not really a port for connection to a fabric, at least not in the sense of an N_port connecting to a fabric. E_ports are used to form interswitch links (ISLs) between switches to actually form a fabric. While a fabric may be pre-existing when two switches are connected using E_ports, the fabric actually extends to include the new switch with the edge of the fabric thus moving from one switch to the next. When an N_port is connected to a fabric, the fabric does not extend to the node but remains at its same extent. Thus connecting an E_port is very different from connecting an N_port and clearly not analogous or sufficient to render the claim obvious.

Applicants therefore submit that in the rejections a required element is missing when the teachings of Paul are properly considered.

Claims 17, 28, 39, and 50

The above arguments use claim 28 as exemplary and therefore correspond directly to claim 28 and very closely for claims 17, 39 and 50. Applicants respectfully submit that the rejections are improper and request withdrawal.

Claims 1, 9 and 101

Applicants submit that the above arguments apply equally to claims 1, 9 and 101. Further, Applicants submit that the preamble should be accorded patentable weight in this instance.

In this case, the preamble does not just recite a purpose or intended use. The preamble defines the environment in which the claimed switching device will operate, namely with a series of nodes and a first fabric. Indeed, these two items are recited in the body of the claims. Ignoring the preamble terms then would ignore these items and the required operation of the body elements with the preamble items would be left undefined. Proper interpretation of the body elements requires giving meaning to series of nodes and first fabric. As these terms are in the preamble, they must be given patentable weight. Therefore, the arguments made above with regard to claim 28 apply completely when the preamble is properly construed so that claims 1, 9 and 101 are allowable.

Claims 61, 71, 81, and 91

The arguments made with regard to claim 28 apply equally so that claims 61, 71, 81, and 91 are patentable. Further, claims 61, 71, 81, and 91 all require a second fabric. The Office Action simply uses a definition of a fabric to support rejecting this requirement for two fabrics. Paul only shows examples with a single fabric, not dual fabrics. While the definition of a fabric would apply to each fabric, the definition alone is insufficient to teach two fabrics, particularly when the specific connections between the node ports, the fabrics and the switching devices or switches is considered. As a result, claims 61, 71, 81, and 91 are allowable.

Claims 2, 10, 18, 29, 40, 51, 62, 72, 82, 92 and 102

Claims 2, 10, 18, 29, 40, 51, 62, 72, 82, 92 and 102 all require the node or N_port to operate as a virtual node or N_port, with one virtual node or N_port address per fabric or F_port. The Office Action has cited to col. 3, lines 64-66 of Paul for the requirement of the node port operating as a virtual node port. Applicants do not understand this citation. Col. 3, lines 64-66 is part of the brief description of Figs. 3-5 and as such is not relevant. Applicants have reviewed lines 64-66 in each column in the patent and do not find any of them that appear relevant. The Office Action further cites to col. 12, lines 35-45 for the requirement of one virtual node address for each of the plurality of fabric ports connected to the numbers. This section of Paul describes an additional header used only internal to the Paul device and not relevant to the addresses of any of the external ports. Even then, the port IDs as identified on TABLE 2 (bits 0:5 of the first half word as noted in line 39) only provides for 64 addresses, effectively matching the 64 quid port boards shown in Fig. 4 of Paul. Thus these bits further cannot correspond to virtual node addresses as they simply are too short. The rejections are improper and must be withdrawn.

Claims 107-117

Applicants submit these rejections are improper. As to claims 107-112 and 117, the arguments of claims 61, 71, 81, and 91 apply, further indicating no teaching of the required second fabric. The citation to col. 8, lines 38-41 just describes the fabric that interconnects the various F_ports of Paul, the single fabric described in Paul. The lines do not teach or suggest the required second fabric. As to claims 113-116, a third fabric is required. As the arguments to claims 61, 71, 81, and 91 show, Paul does not teach the required second fabric, much less a third fabric. Withdrawal of the rejections is requested.

CONCLUSION

Based on the above remarks Applicants respectfully submit that all of the present claims are allowable. Reconsideration is respectfully requested.

Respectfully submitted,

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                                             Keith Lutsch, Reg. No. 31,851

                                             Wong, Cabello, Lutsch,
                                                Rutherford & Brucculeri, L.L.P.
Filed Electronically   20333 SH 249, Suite 600
                                             Houston, TX 77070
                                             832-446-2405